

## CLAIMS

1. In a system for processing a digital datastream of MPEG coded image representative information, an MPEG compatible signal processing network comprising:

10 *a* an input network ~~(12, 14...)~~ for receiving a datastream of compressed MPEG compatible data;

*a* a decompressor ~~(18, 20, 21, 22)~~ for decompressing said compressed MPEG compatible data to produce decompressed data;

15 *a* a plurality of similar, concurrently operative compressors ~~(40, 42)~~ for respectively recompressing different datastreams derived from said decompressed data to produce recompressed data; and

*a* a memory ~~(60)~~ for storing recompressed data from said plurality of compressors.

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2. A system according to claim 1, wherein said MPEG compatible data is in the form of pixel blocks;

*a* said plurality of compressors includes a first compressor ~~(40)~~ for recompressing a first component ~~(a, c)~~ of said data and a similar second compressor ~~(42)~~ for recompressing a second component ~~(b, d)~~ of said data; and

said memory stores said recompressed first and second components of data.

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3. A system according to claim 1, wherein said MPEG compatible data is in the form of pixel blocks;

said plurality of compressors includes a first compressor for

*a* recompressing a first datastream ~~(P1)~~ of interleaved pixel data ~~(a, c)~~, and a

*a* second compressor ~~(42)~~ for recompressing a second datastream ~~(P2)~~ of

35 interleaved pixel data ~~(b, d)~~; and

said memory stores recompressed data from said first interleaved datastream and data from said second interleaved datastream.

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4. A system according to claim 1, and further including  
*a* an interleaving network ~~(24, 27)~~ responsive to said datastream for  
deriving therefrom multiple datastreams of interleaved pixel data in a  
predetermined sequence for processing by said multiple compressors,  
10 respectively.

5. A system according to claim 4, wherein  
said interleaved pixel data comprise an MPEG compatible  
macroblock.

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6. A system according to claim 4, wherein  
said interleaving network produces a first datastream of interleaved  
*a* first and second data components ~~(A, C)~~, and a second datastream of  
*a* interleaved third and fourth data components ~~(B, D)~~, for respective  
20 processing by first and second compressors constituting said multiple  
compressors.

7. A system according to claim 6, wherein  
said first, second, third and fourth data components comprise an  
25 MPEG compatible macroblock.

8. A system according to claim 1 and further including  
*a* a decompression network ~~(80-84)~~ for decompressing recompressed  
data from said memory; wherein  
30 said plurality of compressors and said decompression network are  
included in a DPCM loop.

9. A system according to claim 4, wherein  
*a* said DPCM loop includes a motion compensation network ~~(90)~~.

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10. A method of processing a datastream of compressed MPEG coded image representative data comprising the steps of:  
decompressing said compressed data to produce decompressed data;

10 *a* recompressing a first portion of said decompressed data ~~(a,e)~~ using  
*a* a first recompressor ~~(40)~~ to produce first recompressed data;

*a* recompressing a second portion of said decompressed data ~~(b,d)~~  
*a* using a second recompressor ~~(42)~~ to produce second recompressed data;  
and

15 *a* storing said first and second recompressed data in memory ~~(60)~~.

11. A method according to claim 10, further including the steps of  
decompressing said stored first and second recompressed data to  
produce further decompressed data; and

20 DPCM processing said further decompressed data.

12. A method according to claim 10, wherein said DPCM  
processing includes

25 said first and second recompressing steps, and  
a motion compensation processing step.

13. A method according to claim 10, wherein  
said first portion of said decompressed data subjected to said first  
*a* recompression step comprises a first group of interleaved data ~~(A,C)~~; and  
30 said second portion of said decompressed data subjected to said  
second recompression step comprises a second group of interleaved data

*a* ~~(B,D)~~.

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14. A method for processing a datastream of compressed MPEG coded information representing image pixel data including, an MPEG compatible decoding method for producing finally decoded pixel data for processing by a display processor ~~(70)~~, said decoding method comprising  
10 the steps of:

decompressing said compressed data to produce decompressed data;

deriving finally decoded motion compensated pixel data from said pixel data; and

15 storing data obtained from said deriving step in memory ~~(60)~~,  
wherein

said deriving step includes the step of respectively recompressing different datastreams derived from said decompressed data using multiple  
concurrently operative similar compressors ~~(40,42)~~ to produce  
20 recompressed data; and

said storing step includes the step of storing recompressed data from said multiple compressors.

15. A method according to claim 14, wherein  
25 said deriving step includes a DPCM signal processing step; and  
said method includes the further steps of

a (a) separating said datastream into multiple datastreams ~~(P1,P2)~~  
containing interleaved data components; and

(b) providing said multiple interleaved datastreams to said multiple  
30 compressors, respectively.

16. A method according to claim 15, wherein

a said separating step produces a first datastream ~~(P1)~~ of interleaved  
first and second pixel data components ~~(A,C)~~ and a second datastream ~~(P2)~~  
of interleaved third and fourth pixel data components ~~(B,D)~~ comprising an  
35 MPEG compatible macroblock.

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17. In a system for processing a digital datastream of MPEG coded image representative information, an MPEG compatible signal processing network comprising:

*a* an input network ~~(12, 14)~~ for receiving a datastream of compressed  
10 MPEG compatible data in the form of pixel blocks;

*a* an interleaving network ~~(24, 27)~~ responsive to said datastream for deriving therefrom multiple datastreams of interleaved pixel data in a predetermined sequence for processing by respective compressors;

*a* a decompressor ~~(18, 20, 21, 22)~~ for decompressing said  
15 compressed MPEG compatible data to produce a decompressed datastream;

*a* a plurality of similar, concurrently operative compressors ~~(40, 42)~~ for recompressing said decompressed datastream to produce recompressed

*a* data, said plurality of compressors including a first compressor ~~(40)~~ for  
*a* 20 recompressing a first datastream ~~(P1)~~ of interleaved pixel data ~~(a, c)~~ derived  
*a* from the decompressed MPEG datastream and a second compressor ~~(42)~~  
*a* for recompressing a second datastream ~~(P2)~~ of interleaved pixel data ~~(b, d)~~  
also derived from the decompressed MPEG datastream; and

*a* a memory ~~(60)~~ for storing recompressed data from said first and  
25 second interleaved datastreams.